Fig. 1

N-terminal
secretion signal

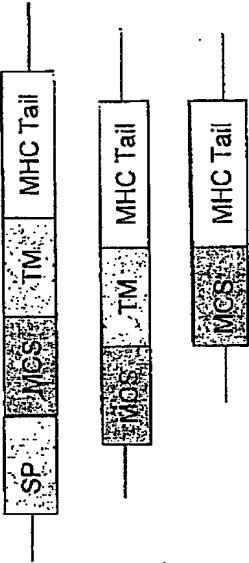antigen polypeptide

C-terminal
MHC class I or MHC class II tail

Fig. 2

cassettes containing cloning sites (MCS) for expression of MHC fusion proteins of the invention

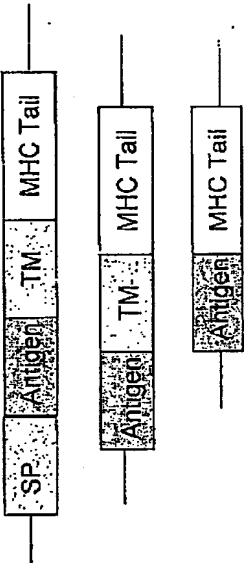cassettes containing antigens cloned therein for expression of MHC fusion proteins of the invention
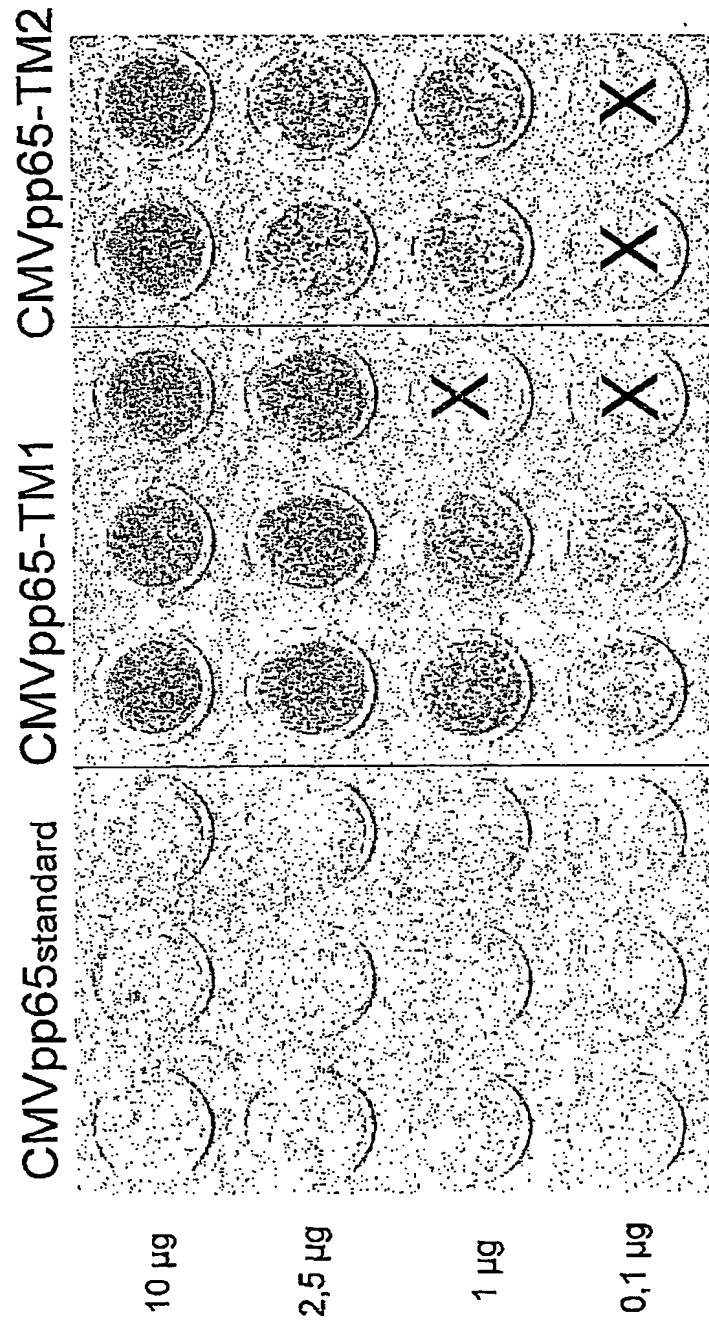
Fig. 3

Fig. 4

Fig. 5

Fig. 6

% lysis

peptide conc.: nM

E:T= 30: 1

Legend:
- NYESO-RNA
- Peptide Mix
- CMVpp65standard
- CMVpp65-TM1
- CMVpp65-TM2

Fig. 7

cassettes containing cloning sites (CS) for expression of SNARE fusion proteins of the invention

cassettes containing antigens cloned therein for expression of SNARE fusion proteins of the invention
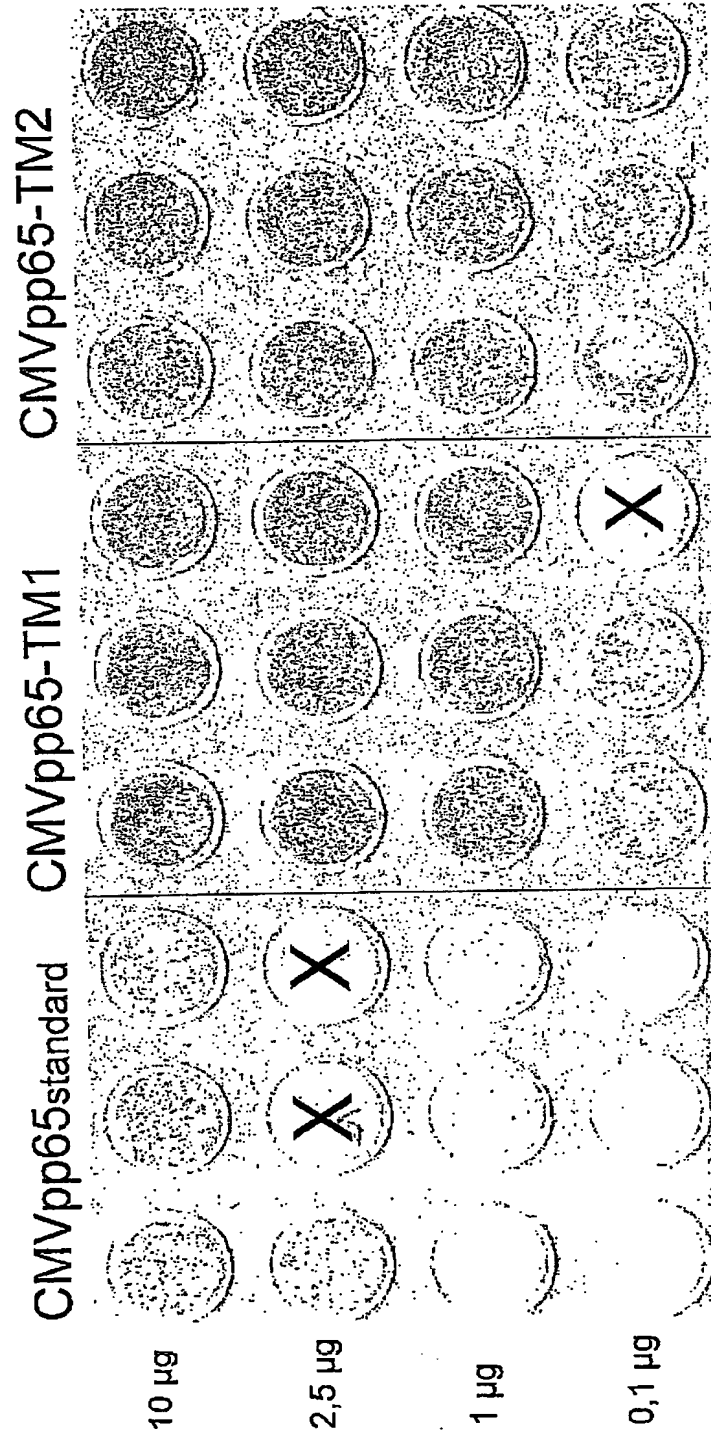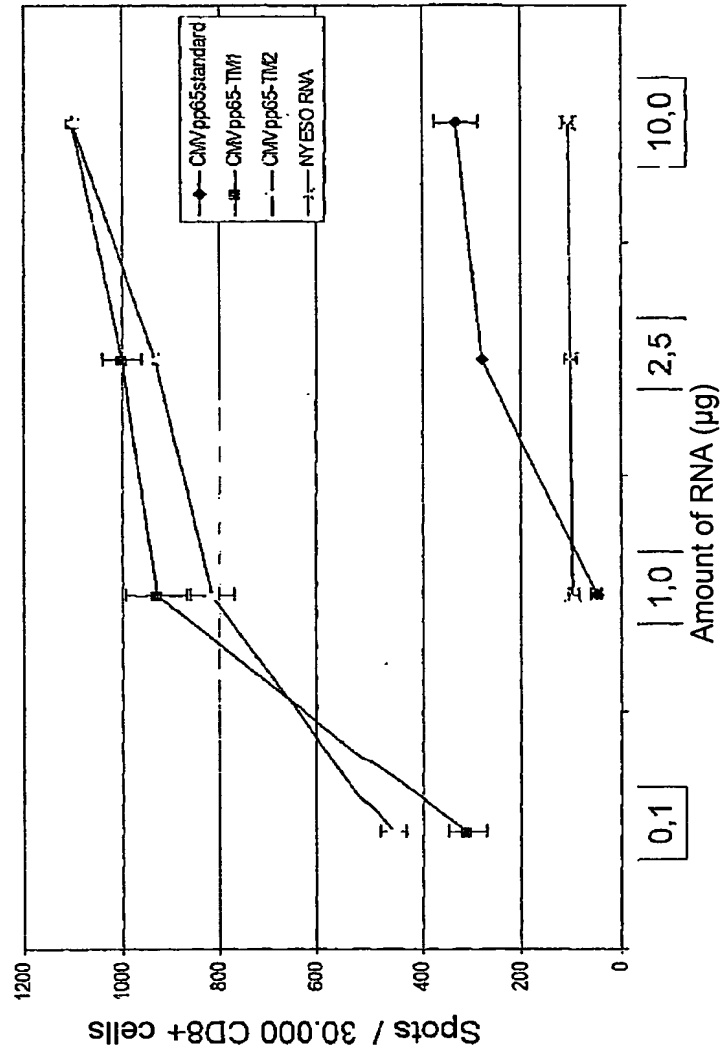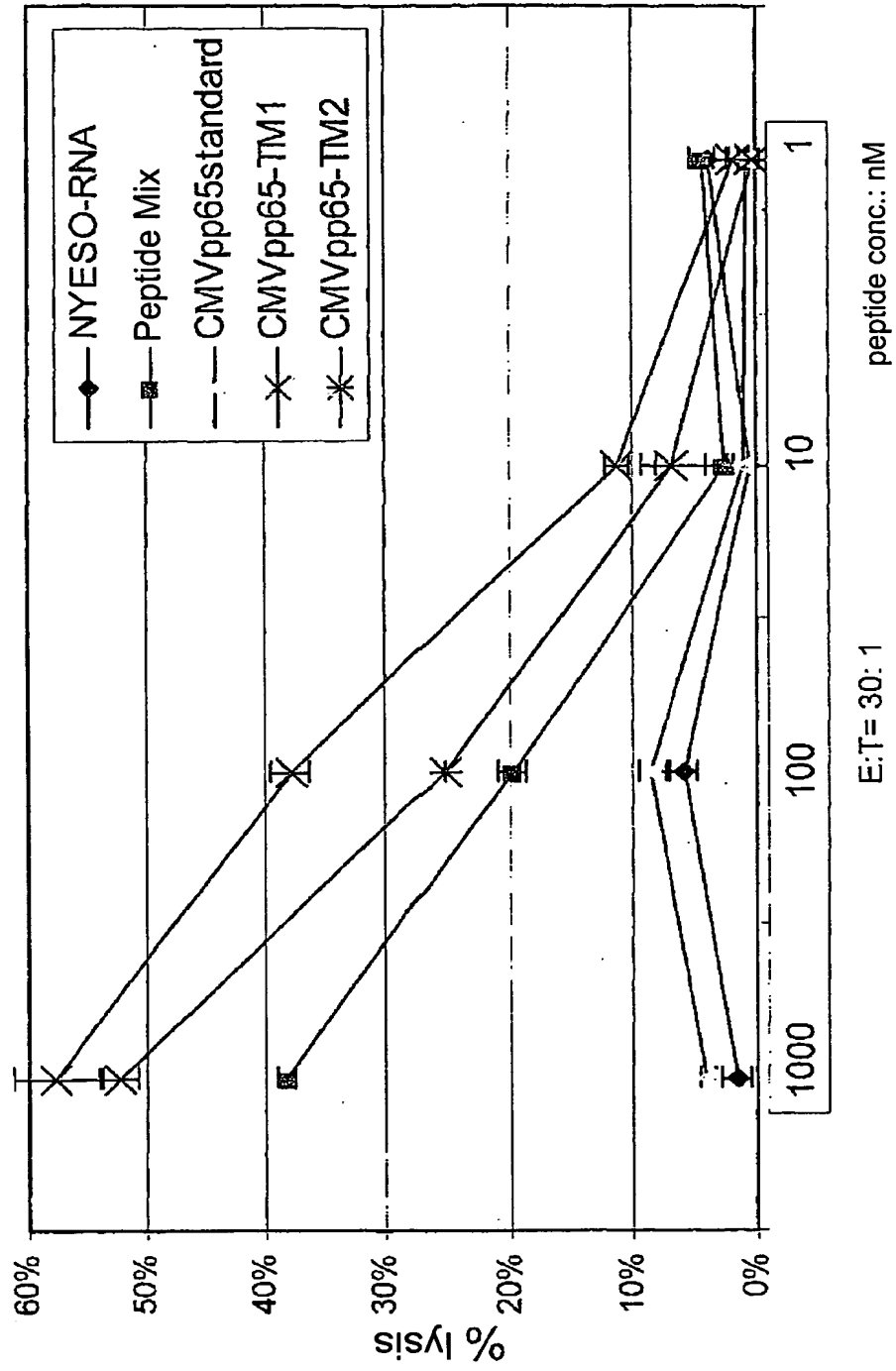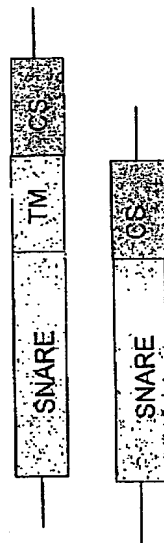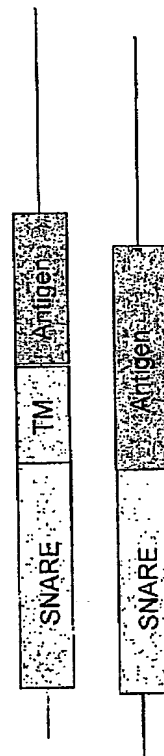
Fig. 8

SEQ ID NO		
1	signal peptide (SecSignal)	ATGCGGGTCACGGCGCCCCGAACCTCATCCTGCTGCTCTCGGGAGCCCTGGCCCTGACCG AGACCTGGGCGCGGCTCC
2	signal peptide SecSignal	MRVTAPRTILILLSGALALTETWAGS
3	HLA class I TM-CM	ATCGTGGGCATTGTTGCTGGCCTGGCTGTCCTAGCAGTTGTGGTCATCGGAGCGTGTGTCCTACTGTGATGTGTAGGAGGAAGAG CTCAGGTGGAAAAGGAGGAGGAGCTACTCTCAGGCTGCGTCCAGCGCAGTGCCCAGGCTCTGATGTGTCTCVCACAGCTTGA
4	HLA class I TM-CM	IVGIVAGLAVLAVVVIGAVVATVMCRRKSSGGKGGSYSQAASSDSAQGSDVSLTA
5	HLA class II TM-CM	CAGAGCAAGAGTGCTGAGTCGACTCGGGGGCTTTGTGCTGGGCCTGCTCTTCCTTGGGCCGGGCTGTTCATCTACTTCAGGAATCA GAAAGGACACCTCGGACTTCAGCGAAGAGGATTCCTGAGCTGA
6	HLA class II TM-CM	QSKMLSCVGGFVLCLLFLGAGLFIYFRNQKGHSGLQPRGF L3
7		CTGCAGGTCGACTCTAGAGGATCC
8		LQVDSRGS
9	pp65 antigen	atggagtcgcgcgtcgccgttgtcccgaaatgatatccgtactggtcccatttcggggcacgtgctgaaagccgtgtttagtcg cggcgataacgccggcgctgccgcacgagacgcgactcctgcgacacgggtatccacgtacggcgtgagccaycctgctgatcttgg tatccgtacacgcccgactgacgccatgccacaacccacgtggcgaagcatctgcccagccaggagcccatgcatctcgatctatgtgtacgc gtggagaacgtgtcgtcaacgtgtgaacatcccagtcaccactgccaccactaacgtgcaccctaccccgtcgcgcgagcgcaaacnccgacacctgccg gctgccgctcaagatgtgtgaacatcccagtcatcacgtggcagcagcgagtggcagcgccgtctcacgtcctggactggcctgacgcgtcagcag tagctgacgtgtgattcacgtcggcgaaggcagcagatggcagcgccgttcgtgttccacacaaggacgtgcactgcggcacggcggtgtgcgc aaccagtggaaagagcccgacgctactacacacgcgcaactaagatgcgcaccaagatgtgacaggtgataggtgaccagtgacttcaaggtgacctggagt gcacgagctggttgctccatggagaacacagcgcgtggttattgcacgtcacgtcgctgagcgtgaaagaaggaggaccctgacgatgacccgc cctttcgaggacgtgccctccggcaacgactcttatgcacgtcaacggcttcctgctgtgtctgctgtgtccaagagcatccggcctgagcatct ctcgcacatcatgctggatgtgcctttacctccacacgagcattttgggctgctgctcataagcgatctgctctactgtgctgctcaacgct caggtaacctgttgatgaacggcgagcagatctctgaggtacaacatacgagacctgaactgcgtctgcgtacgatgccacacccacctcaccagccagta gttgctgcgtctctcttttttcgatatcgacttgctgctgctgccgcacacctgqaccgacccgacgaggvtgccgccaggegutgggccgccaccggtggaccgacgatgtggccctcc tcgcatccagggcgaagcttgagttgacgttgacgtaccgacacactgccgaccgacgaagacgccccgacccctcaccagccagta gcgctgctcgactccgacgaagaaacgcaaatcagnatcagbntctcgggacgacgggtcgacgtcgggglt.atgacacgcggcggcctaaggccga

		gtccaccgtcgcgccgaagaggacaccgacgaggattcgacaacgaaatcacacaatccggcgtgttcacctggccgccctcgc aggccggcatcctgtccgcaacctggtgccatggccatggtggctacggttggaaggcgtatgcgacccaaacctgcgcaacccaccggcaaga gccaacgacatctaccgcatcctccgccgccgattggaaggcgtatgcgacccaaacctgcgcaacccaaaacgtcgccgcaccggcaaga cgccttgcccggccatgcatcgactcgacgccaaaagacccgaggt
10	pp65 antigen	MESRGRRCPEMISVLGPISGHVLKAVFSRGDTPVLPHETRLLQTGIHVRVSQPSLILVSQ YTPDSTPCHRGDNQLQVQHTYFTGSFVENVSVNVHNPTGRSICPSQEPMSIYVYALPLKM LNIPSINVHHYPSAAERKHRHLPVADAVIHASGKQMWQARLTVSGLAWTRQQNQWKEPDV YYTSAFVFPTKDVALRHVVCAHELVCSMENTRATKMQVIGDQYVKVYLESFCEDVPSGKL FMHVTLGSDVEHLLIMTRNPQPFMRPHFRNGFTVLCPKNMIIKPGKISHIMLDVAFTSHE HFGLLCPKSIPGLLSISGNLLMNGQQIFLEVQALRETVELRQYDPVAALFFEDIDLLLQRG PQYSEHPTFTSQYKLQGKLEYRHTWDRHIIDEGARQGDDDVWTSGSDSDEELVTTERKTPRV TGGAMAGASTSNGRKRKSASSATACTSGVMTRGRLKAESTVAPEEDTDEDSDNEIHNPA VFTNFPWQAGILARNLVFMVATVYGQNLKYQEEFWDANDIYRIFAELEGVWQPAAQPKRR RHKQDALPGPCIASTPKKHRG
11	SecSignal- pp65 antigen- HLA class I TM-CM	atgtgggtcacggcgcgcccgaacctcatcctgctgctcctcgggagcccctgccctgaccgagacctggccggcctcctgcaggt cgactcctagaggatccaccatggtggtcgccgtcgccgtcgccgttgtccggaaatgatatccgcaggtggtcccaltttcggggcacgtgc tgaaagccgtgtttagtcgcggcgatacgccggtgctgccgcacgagagcgcgactcctgcacgcgggtatccacgtacggtgagc cagccctcgctgatcctggtatcgcagtacacgcccgactcgacgcggcgacaatcaggtcgaggtgcagcacac gtactttacgggcagcgaggtggtgaagtgtcggtcaagatgctgaacatcccagatcaaagtcaccactacccgtcgcgcggccgagcgc tgtcgatctatgtgtaccgcctgcgtcgtctcaagatgctgaacatgcccgatatggcgagatgtggcaggccgcgtctcacggtctcggact aaacacgacacctgcccgtagctgacgctgtgattcacggcgcccagcgttcgttcgttccaccaaggacgtggcac gacgacgacgtctgaccagcggatcccaggtcgactccggcggccgcaaargcaaatcagccatcctcggcgacgtccgacgtcggccgtttgacac tgcggcacgctggtgtcgcgcacgacgctgtttgctccatggagaacacgcgcaaccaagatgcaggtgatagtgaccagtac gtcaaggtgtacctgagtcacttctgcgaggacgtgccctccgcaatgtcttatgcacgcacgctggctctgacgtggaga ggacctgacgatgacccgcaaccgcaaccctcatgcgccaccagcgcaaccgcttacggtgttcgtcccaaaatatga taatcaaaccggccagcaagatctcgcacatcatgctgatcgtcgttttacctcacgcagcatttggcgtgctgtcgtgtcccagagc atcccggccttcagtacgcctgctaacctggtttgatgaacgggacgagatcttcctgaggtacaagccatacgcagaccgtgga ccacctgcaccagccagtatcgcaccaggtcaagcttgagtaccgacacacctggagtaccgaagaaaggcagaccgagaccgagcacc gacgacgacgtctgaccagcggatcccaggtcgactccggcgggccgcaaargcaaatcagccatcctcggcgacgtccgacgttatgacac cgccatggcgggcgccttaaggccgagtccaccttccgcggccgagaggattccgacacgaaatccacaatccggccgtg ttcacctggccgccctggccagccggccgctccaccgtcgcccgccatggtcgccgttgctacggttcaggtgcagaatctgaagta ccaggaattcttctggatgccaacgacatcttaccgcatcttcgccgatcgactcgctggcgcaccctggcatt gtcgcccaccaccggcaagacgctgcccggccatggagtcaggcgcgagggtggatccactcccgtgggcatt gttgctggcctggcttcctagcagttgtggtcatcggagtcgggctctgattgtgtactgtgatgtgtctcaggttga aggaggggagctactctcaagcttcgtcctcgcggcagggtgccaggggctgatgtgtctctcacagcttga

12	SecSignal-pp65 antigen-HLA class I TM-CM	MRVTAPRTLILLLSGAIALTETWAGSLQVDSRGSTMESRGRRCPEMISVLGPISGHVLKA VESRGDTPVLPHETRLLQTGIHVRVSQPSLILVSQYTPDSTPCIIRGDNQLQVQHTYFTGS EVENVSVNVHNPTGRSICPSQEPMSIYVYALPLKMLNIPSINVHHYPSAAERKHRLPVA DAVIHASGKQMWQARLTVSGLAWTRQQNQWKEPDVYYTSAFVFPTKDVALRHVVCAHELV CSMENTRATKMQVIGDQYVKVLESECEDVPSGKLFMHVTLGSDVEEDLTMTRNPQPFMR PHERNGFTVLCPKNMIIKPGKISHIMLDVAFTSHEHFGLLCPKSIPGLSISGNLLMNGQQ IFLEVQAIRETVELRQYDPVAAIFFDIDLLLQRCPQYSEHPTFTSQYRIQGKLEYRHTW DRHDEGAAQGDDDVWTSGSDSDEELVTTERKTPRVTGGAMAGASTSAGRKRKGASSATA CTSGVMTRGRLKAESTVAPEEDTDEDSUNEIHNPAVFTWPPWQAGILARNLVPMVATVQG QNLKYQEFFWANDIYRIFAELEGVWQPAAQPKRRRHRQDALPGPCIASTPKKHRGGSIV GIVAGLAVLAVVVIGAVVATVMCRRKSSGGKGGSYSQAASSDSAQGSDVSLTA
13	SecSignal-pp65 antigen-HLA class II TM-CM	atgcgggtcacggcgcgccgaaccctcatcctgctgctctcgggagccctggccctgaccgagacctggccgctccctgcaggtcga ctctagaggatccaccatggctgcgccggtcggcgtggccgttgtcccgaaatgatatccgtactggttccatttccgggcacgtgctgaaag ccgtgttagtccgcggcgatacgccggtgctgccgcacgagacgcgacttcctgcagacgcgqttatccacgtacgcgtgagccagcctcg ctgtcctggtatcgcagtacacgcccgactcgacgatgcacacccacgggcgaagcatctgcccagccaggagcccatgtcgatctatgtgt cagcgaggtggaaacgtgtcggtcaacgtgcacaacccacagggcgaagcatctgcccagccaggagcccatgtcgatctatgtgccc acgcgctgcgctcaagatgctgaacatcccagcatcaacgtgcaccactaccgtcgtgcgcggtctcggacgcgtctcggactggccagaa gtagctgacggtgtgattcacgcgtcggcaagagatgtggcaggcggtctcacgtgccggcacgtgtgcgcgacg ccagtggaaagagccgacgctactacacgtcagcgtcgtgttccccaagaacgtgccactgcggcacgtgtggtccttctgc aactggtttgctccatggagaacaccgggcaagctctttatgcacgtcacgctggctctgacgtggaagaggacctgacgatgacccgcaacc gagacgtgccctccggcaagctcttttatgcacgtcacgctggctgtgtctgtgtccccaaaaatatgataatcaaccgggctgagcatctcagttaacctgttgatg cttcatcgcgccccacgcagggcaacggcttctttacggttgtttgtgtccccaaaaatatgataatcaaccgggctgagcatctcagttaacctgttgatg tggatgtggtcttttacctcacacgagcatttgggctggtacagccatacgcgagaccgtggaactggctgagtaccgatgtacctccagttttt aacgggcagcagatcttcctggaggtacaagccatacgcgagaccgtggaactggctgagtaccgatccatccagggcaacgttgagt cgatatcgacttgctgctgagcgcgggcgggcctcagtacagcgagcaccccacctcaccagccatccgcatccagggcatccgcacgaagaactc accgacacaccctggaccggcacgacgagggtgcgcgccacggcggcggcccatqqccgcctccacttccgcggccgtccaaacgcaaatcagc gtaaccaccgagcgcaagagacgccccgcgtcaccggcatggctcaccgcggccggccatgtatgacacgcggccgcctcaaggccgagtccacgtcgccgaagaggaccaccgacg atcctcggcagacggcgtgcagtcggcggtatgacacgcggccgcctcaaggccgagtccacgtcgccgaagaggaccaccgacg aggattccgacaacgaaatccacaatccggccgtgttcacctgcaccgccggccatctgctcggcggtgtccccgaacctggtgcccatg gtgcctacggttcaggtgtcagaatctgaagtaccaggaattcttctttcggacgtgcagcgaaggccgttcaggtgtcagaatctgaagtaccaggaattcttctttcggacccagaaaagc cgtatggcagcccgctgcgtcaacccaaacgtcgccagcagaaacgcctcgccctgaaagcccaaaagc accgaggtggatccagagcaagatgctcgagtggagtcgagtgctgctggggcctgctcttcctgggcgggctgttcatctac ttcaggaatcagaaaggacaacctctgacttcagccaagaggattcctgagctga
14	SecSignal-pp65 antigen-HLA class II TM-CM	MRVTAPRTLILLLSGAIALTETWAGSLQVDSRGSTMESRGRRCPEMISVLGPISGHVLKA VESRGDTPVLPHETRLLQTGIHVRVSQPSLILVSQYTPDSTPCHRGDNQLQVQHTYFTGS EVENVSVNVHNPTGRSICPSQEPMSIYVYALPLKMLNIPSINVHHYPSAAERKHRLPVA DAVIHASGKQMWQARLTVSGLAWTRQQNQWKEPDVYYTSAFVFPTKDVALRHVVCAHELV

64	**PRAME** **variant 1** CSSENTRATRKMQVIGDQYVKVYLESFCEDVPSGKLFMHVILGSDVEEDLTMTRNPQFFMR PHERNGFTVLCPKNMIIKPGKISHIMLDVAFTSHEHFGLLCPKSIPGLSISGNLLMNGQQ IFLEVQAIRETVELRQYDPVAALFFDIDLLQKRGPQYSEHPFTTSQYRIQGKLFYRHTW DRHDEGAAQGDDDVWTSGSDSDEELVTERKTPRVTCGGAMAGNTSAGRKRKSASSATA CTSGVMTRGRLKAESTVAPEDTDEDSDNEIHNPAVETWPFWQAGILARNLVEMVATVQG QNLKYQEFFWDANDIYRIFAELEGVWQPAAQPKRRRIRQALFGPCIASTPKKHRGGSQS KMLSGVGGFVLGLLFLGAGLFIYFRNQKGHSGLQPRGFLS 1 atggaacgaa ggcgtttgtg gggttccatt cagagccgat acatcagcat gagtgtgtgg 61 acaagcccac ggagacttgt ggagctggca gggcagaqcc tgctgaagga tgaggccctg 121 gccattgccg ccctggagtt gctgcccagg gagctcttcc cgccactctt catgcagcc 181 tttgacggga gacacagcca gacctgaag gcaatggtgc aggcctggcc aggctacctg 241 ctccctctgg gagtgctgat gaaggsacaa catcttcacc tggagacctt caaagctgtg 301 cttgatggac ttgatgtgct ccttgcccag gagyttcgcc cuaggaggtg gaaacttcaa 361 gtgctggatt tacggaagaa ctctcatcag gacttctgga ctgtatggtc tggaaacagg 421 gtcagtctgt actcatttcc agagccagaa gcagctcage ccatgacaca gaagcgaaaa 481 gtagatggtt tgagcacaga ggcagagcag ctgtcattic cagtagaggt gctcgtagac 541 ctgttcctca aggaaggtgc ctgtcatgaa ttgttctcct acctcattga gaagtgaag 601 cgaaagaaaa atgtactacg cctgtgctgt aagaagctga agatttttgc aatgcccatg 661 caggatatca agatgatcct gaaaatggty cagctggact ctattgaaga tttggaagtg 721 actggtaocl ggaagctacc caccctggcg aaatttctc cttacctggg ccgatgatt 781 aatctcgqta gactcctcct ctcccaacat catgcactt cctacattc ccggagaag 841 gaagagcagt atatcgccca gttcacctct cagtcctca gtctgcagtg cctgcaggct 901 ctctatgtgg actctttatt tttcctttaga ggcgcctgg atcagttgct caggcagytg 961 atgaacccct tggaaaccct ctcaataact aactgccggc tttcggaagg ggatgtgatg 1021 catctgtccc agagtcccag cgtcagtcag ctaagtgtcc tgagtctaag tgyggtcatg 1081 ctgaccatg taagtcccga gcccctccaa gctctgctgg agagagcctc tgccacctc 1141 caggacctgg tctttgatga gtgtgggatc acgatgatct acggaantc catctccata 1201 tccctgagcc actgctccca gcttacaacc ttaagcttct acgggctgga catctccata 1261 tctgccttgc agagtctcct gcagcacctc atcgggctga gaatctgac ccacgtgctg 1321 tatcctgtcc ccctggagag ttatgaggac atccatggta cctccaacct ggagaggctt 1381 gcctatctgc atgccaggct caggggagttg ctgtggagt tggycggcc cagcatgtc 1441 tggcttagty ccaacccctg tcctcactgt gggacagaa ccttctatga cccgqagccc 1501 atcctgtgcc cctgtttcat gcctaaac
65	**WT1** **variant C** 1 atggggctccg acgtgcggga cctgaacgcg ctgctgcccg ccgtgccctc cctgggtggc 61 ggcggcggct gtgccctgcc tgtgtcggcgg ycggcgcagt gggcgcccag ctgggacttt 121 gcgcccccyg gcggctcggc ttacggtcg ttggcggcc cgcgccgcc accggtccg 181 cggccaccc cgcgccgccc cgcagccgca ttcatcaaac aggagccgag ctggggccggc 241 gcggagccgc acaggagaca ccggagcctg gccttcactg tccucttctc cggccagttc 301 actgccccag cccagagcctg tcgctacggg cccttcggtc ctcctcggtc ctgctcgggg

66		

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p53		

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Fig. 9

SEQ ID NO	Type	Name	Sequence
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16	MHC		GSYSQAASSDSAQGSDVSLTACKV
17	MHC	HLA-B	PSSQSTVPIVGIVAGLAVLAVVVLGAVVAAVMCRRKSSGGKGGSYSQAACSDSAQGSDVSLTA
18	MHC		GSYSQAACSDSAQGSDVSLTA
19	MHC	HLA-C	PSSQPTIPIVGIVAGLAVLAVLAVTLGAMVAVMCRRKSSGGKGGSCSQAASSNSAQGSDESLIACKA
20	MHC		SAQGSDESLIACKA
21	MHC	HLA-E	PASQPTIPIVGIIAGLVLLGSVVSGAVVAAVIWRKKSSGGKGGSYSKAEWSDSAQGSESHSL
22	MHC		GSYSKAEWSDSAQGSESHSL
23	MHC	HLA-F	QSPQPTIPIVGIVAGLVVLGAVVTGAVVAAVMWRKKSSDRNRGSYSQAAVTDSAQGSGVSLTANKV
24	MHC		RNRGSYSQAAVTDSAQGSGVSLTANKV
25	MHC	HLA-Dra	VVCALGLTVGLVGIIIGTIFIIKGLRKSNAAERRGPL
26	MHC		RKSNAAERRGPL
27	MHC	HLA-DRb	MLSGVGGFVLGLLFLAGLFIYFRNQKGHSGLQPRGEFLS
28	MHC		GHSGLQPRGEFLS
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30	MHC		VGASRHQGPL
31	MHC	HLA-DQb	MLSGIGGFVLGLIFLGLGLIIHHRSQKGLLH
32	MHC		RSQKGLLH
33	MHC	HLA-DPa	VLCALGLVLGLVGLIVGTVLIIKSLRSGHDPRAQGTL
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35	MHC	HLA-DPb	TLTGAGGFVLGLLICGVGIFMHRRSKKVQRGSA
36	MHC		SKKVQRGSA
37	MHC	CD1a	FIILAVIVPLLLLIGLALWFKRCFC
38	MHC		RKRCFC
39	MHC	CD1b	IVLAIIVPSLLLLLCLALWIMRRRSYQNIP
40	MHC		RRRSYQNIP
41	MHC	CD1c	WIALVVIVPLVILVLVWFKKHCSYQDIL
42	MHC		KKHCSYQDIL

Fig. 10

14/17

SEQ ID NO	Type	Name	Sequence
43	SNARE	Cis-golgi SNARE p28	MAAGTSSYWE DLRKQARQLE NELDLKLVSF SELCTSYSHS STRDGRRDRY SSDTPLLNG SSQDRMFETM AIELEQLIAR LTGVNDKMAE YTNSAGVPSL NAALMHTLQR HRDILQDYTH EFHKTKANFM AIRSRENLMG SVRKDIESYK SGSGVNNRRT ELTLKEHDHL RNSDRLIEET ISTAMATKEN MTSQRGMLKS IHSKMNTLAN REPAVNSLIQ RINLRKRDS LILGGVIGIC TILLLYAFH
44	SNARE	VTI1b	MGASLTSPGT QEKLLRDFDE KQQEANKMLT QMEEELHYAP VSFHNPMMSK LQDYQKDLAQ FHLEARLMPG DRGDMKYGTY AVENEHMNRL QSQRAMLLQG TKSLGRATQE TDQIGSEISE ELGNQRDQ
45	SNARE	Membrin	MDPLFQQTHK QVHEIQSCMG RLETADKQSV HIVENEIQAS IDQIFSRLFR LEILSSKFPP NKRQNARLRV DQLKYDVQHL QTALRNFQHR RHAREQQFRQ REELLSRTFT TNDSDTTIPM DESLQFNSSL QKVHNGMDDL ILDGHNILDG LRTQRLTLKG TQKKILDIAN MLGLSNTVMR LIEKRAFQDK YFMIGGMLLT CVVMFLVVQY LT
46	SNARE	Pallidin	MSVPGPSSPD GALTRPPYCL EAGEPTPGLS DTSPDEGLIE DLTTEDKAVE QLAEGLLSHY LPDLQRSKQA LQELTQNQVV LLDTLEQEIS KFKECHSMLD INALFAEAKH YHAKLVNIRK EMLMLHEKTS KLKKRALKLQ QKRQKEELER EQQREKEFER EKQLTARPAK RM
47	SNARE	Syntaxin-5	MSCRDRTQEF LSACKSLQTR QNGIQTNKPA LRAVRQRSEF TLMAKRIGKD LSNTFAKLEK LTILAKRKSL FDDKAVEIEE LTYIIKQDIN SLNKQLAQLQ DFVRAKGSQS GRHLQTHSNT IVVSLQSKLA SMSNDFKSVL EVRTENLKQQ R3RREQFSRA PVSALPLAPN HLGGGAVVLG AESHASKDVA IDMMDSRTSQ QLQLIDEQDS YIQSRADTMQ NIESTIVELG SIFQQLAHMV KEQEETQRI DENVLGAQLD VEAAHSEILK YFQSVTSNRW LMVKIFLILI VFFIEVVFL A
48	SNARE	Syntaxin-6	MSMEDPFFVV KGEVQKAVNT AQGLFQRWTE LLQDPSTATR EEIDWTTNEL RNNLRSIEWD LEDLDETISI VEANPRKFNL DATELSIRKA FITSTRQVVR DMKDQMSTSS VQALAERKNR QALLGDSGSQ NWSTGTTDKY GRLDRELQRA NSHFIEBQQA QQQLIVEQQD EQLELVSGSI GVLKNMSQRI GGELEEQAVM LEDFSHELES TQSRLDNVMK KLAKVSHMTS DRRQWCAIAI LFAVLLVVLI LFLVL
49	SNARE	Syntaxin-7	MSYTPGVGGD PAQLAQRISS NIQKITQCSV EIQRTLNQLG TPCDSPELRQ QLQQKQQYTN QLAKETDKYI KEFGSLPTTP SEQRQRKIQK DRLVAEFTTS LTNFQKVQRQ AAEREKEFVA RVRASRVSG SFPEDSSKER NLVSWESQTQ PQVQVQDEEI TEDDLRLIHE RESSIRQLEA DIMDINEIFK DLGMMIHEQG DVIDSIEANV ENAEVHVQQA NQQLSRAADY QRKSRKTLCI IILILVIGVA IISLIIWGLN H

50	SNARE	MAEDPWFSTY DSTCQIAQEI AEKIQQRNQY ERKGEKAPKL TVTIKALLQN LKEKIALLKD LLLRAVSTHQ ITQLEGDRRQ NLLDDLVTRE RLLLASFKNE GAEPDLIRSS LMSEEAKRGA PNPWLFEEPE ETRGLGFDEI RQQQKIIQS QDAGLDRLSS IISRQKQMGQ EIGNELDEQN EIIDDLANLV ENTDEKLRNE TRKVNMVDRK SASCGMIAVI LLLLVAIVVV AVWPTN
51	SNARE	MSLEDPFFVV RGEVQKAVNT ARGLYQRWCE LLQESAAVGR EELDWTTNEL RNGLRSIEWD LEDLEETIGI VEANPGKPAA QKSPSDILDA SAVSATSRYI EEQQATQOLI MDEQDQQLEM VSGSIQVLKH MSGRVGEELD EQGIMLDAFA QEMDHTQSRM DGVLRKLAKV SHMTSDRRQW CAIAVIVGVL LLVLILLFSL
52	SNARE SYNTAXIN-10a	MSLRDPFFVV RGEVQKAVNT ARGLYQRWCE LLQESAAVGR EELDWTTNEL RNGLRSIEWD LEDLEETIGI VEANPGKEKL PAGDLQERKV FVERMREAVQ EMKDHMVSPT AVAFLERNNR EILAGKPAAQ KSPSDILDAS AVSATSRYIE EQQATQQLIM DEQDQQLEMV SGSIQVLKHM SGRVGEELDE QGIMLDAFAQ EMDHTQSRMD GVLRKLAKVS HMTSDRRQWC AIAVIVGVLL LVLILLFSL
53	SNARE	MKDRIAELLD LSKQYDQQFP DGDDEFDSPH EDIVFETDHI LESLYRDIRD IQDENQLIVA DVKRLGKQNA RFLTSMRRLS SIKRDTNSIA KAERARGEVI HCKLRAMKEL SEAAEAQHGP HSAVARISRA QYNALTLEFQ RAMHDYNQAE MKQRDNCKIR IQRQLEIMGK EVSGDQIEDM FEQGKNDVES ENLLADVKGR GPPTTRSRAA TANCCAWRAA IEDVHELELQ MAVIVEKQAD TLNVTELNVQ KTVDYTGQAK AQVRKAVQYE EKNPCRTLCC FCCPCLK
54	SNARE	MSYGELDMYR NPGPSGPQLR DFSSIIQTCS GNIQRISQAT AQIKNLMSQL GTKQDSSKLQ ENLQQLQHST NQLAKETNEL LKELGSLELP LSTSEQRQQR LQKERLMNDF SAALNNFQAV QRRVSEKEKE SIARARAGSR LSAEERQREE QLVSFDSHEE WNQMQSQEDE VAITEQDLEL IKERETAIRQ LEADILDVNQ IFKDLAMMIH DQGDLIDSLE ANVESSEVHV ERATEQLQRA AYYQKKSRKK MCILVLVLSV IILILGLIIW LVYKTK
55	SNARE Syntaxin-17	MSEDEEKVKL RRLEPAIQKF IKIVIPTNLE RLRKHQINLE KYQKCRIWDK LHEEHINAGR TVQQIRSNIR EEEKLCLKVR KDDIVLLKRM IDPVKEEASA ATAEFLQLHL ESVELKKQF NDEETLLQPP LTRSMTVGGA FHTTEAEASS QSLTQIYALP EIPQDQNAAE SHETLEADLI ELSQLVTDFS LLVNSQQEKI DSIADHVNSA AVNVEEGTKN LGKAAKYKLA ALPVAGALIG GMVGGPIGLL ACFKVAGIAA ALGGGVLGFT GGKLIQRKKQ KMMEKLTSSC PDLPSQTDKK CS
56	SNARE	MSATAATAPP AAPAGEGGPP APPPNLTSNR RLQQTQAQVD EVVDIMRVNV DKVLERDQKL SELDDRADAL QAGASQFETS AAKLKRKYWW KNLKMMIILG VICAIILIII IVYFSS
57	SNARE	MSTGPTAATG SNRRLQQTQN QVDEVVDIMR VNVDKVLERD QKLSELDDRA DALQAGASQF ETSAAKLKRK YWWKNCKWWA IGITVLVIFI IIIIVWVVSS

58	SNARE	VAMP-4	MPPKEKRHLN DDDVTGSVKS ERRNLLEDDS DEEEDFFLRG PSGPRFGPRN DKIKHVQNQV DEVIDVMPEN ITKVIERGER LDRLQDKSES LSDNATAFSN RSKQLRQMW WRGCKIKAIM ALVAAILLLV IIILIVMKYR T
59	SNARE	VAMP-7	MAILFAVVAR GTTILAKHAW CGGNFLEVTE QILAKIPSEN NKLTYSHGNY LFUYICQDRI VILCITDDDF ERSRAFNFLN EIKKRFQTTY GSRAQTALPY AMNSEFSSVL AAQLKHHSEN KGLDKVMETQ AQVDELKGIM VRNTDLVAQR GERLELLIDK TENLVDSSVT FKTTSRNLAR AMCMKNLKLT IIIIVSIVF IYIIVSPLCG GFTWPSCVKK
60	SNARE	VAMP8	MEEASEGGGN DRVRNLQSEV EGVKNIMTQN VERILARGEN LEHLRNKTED LEATSEHFKT TSQKVARKFW WKNVKMTVLI CVIVFIILF IVLFATGAFS
61	SNARE	VTI1-a-beta	MSSDFEGYEQ DFAVLTAEIT SKIARVPRLP PDEKKQMVAN VFKQLEEAKE LLEQMDLEVR EIPFQSRGMY SNRMRSYKQE MGKLLETDFKR SRIAYSDEVR NELLGDDGNS SENQRAHLLD NTERLERSSR RLEAGIQIAV ETEQIGQEML ENLSHDREKI QRARERLRET DANLGKSSRI LFGMLRRGCS VKKQCNLSLA PKA
62	SNARE	XP350893	MRDLLPDLTA CRKNDDGDTV VVVEKDHFMD DFFHQVEEIR NSIDKITQYV EEVKKNHSII LSAPNPFGKI KEELEDLNKE IKKTANKIFA KLKALEQSFD QDESGNRTSV DLRLRPTQHS VLSRKFVEAM AEYNEAQTLF RERSKGRIQR QLEITGRTTT DDELEEMLES GKPSIFTSDI ISDSQITRQA LNEIESRHKD IMKLETSIRE LHEMFMDMAM FVETQGEMIN NLERNVMNAT DYVRHAKEET KKAIKYQSKA RRVSLASKN
63	SNARE	LIP5	QMAALAPLPF LPAQFKSIQH HLRTAQEHDK RDPVVAYYCR LYAMQTGMKI DSKTPECRKF LSKLMDQLEA LKKQLGDMEA ITQEIVGCAX LENYAJKMET YADNEDRAGR FHKNMIKSFY TASLLDVIT VFGELTDENV KURKYARWKA TYIHNCLKEW GDSSSRPCWE LKKIMILKKM KMLEQPLCPL SQLSHHHLQL MTQQHALRQL YWNTDSSGCI RSS

Fig. 11